WHAT IS CLAIMED IS:

1. A method of forming an insulating film in a semiconductor device, comprising the steps of:

forming a low dielectric constant insulating film containing a foaming agent on a semiconductor substrate in which various elements for forming the semiconductor device are formed;

forming a dual damascene pattern in the low dielectric constant insulating film; and

performing an annealing process so that the foaming agent reacts to form pores, thus making the low dielectric constant insulating film a porous low dielectric constant insulating film.

2. The method as claimed in claim 1, wherein ploy methyl metacrylate (PMMA) copolymer, and high polymer having aliphatic or aromatic core are used as the foaming agent.

3. The method as claimed in claim 1, wherein methyl silsesquioxane (MSSQ) is used as a matrix of the low dielectric constant insulating film.

4. The method as claimed in claim 1, wherein the process of forming the dual damascene pattern is performed at a temperature of -50℃ to room temperature.

5. The method as claimed in claim 1, wherein the annealing process is performed at a temperature in the range of 200℃ to 500℃.